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09/537,755	03/30/2000	Yukio Sugimura	P107314-00001	8434

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EXAMINER	
NGUYEN, HUY THANH	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/537,755	SUGIMURA ET AL.	
	Examiner	Art Unit	
	HUY T NGUYEN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) *7-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Correct Inventorship

1. In view of the papers filed 26 February 2004 , the inventorship in this nonprovisional application has been changed by the deletion of Tetsuro YABUMOTO and Akira YAMASAKI.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Ono et al (6,314,137).

Regarding claim 1, Ono discloses an image recording apparatus (Figs. 1 and 9-11, column 24, lines 24-45)) comprising:

image compression means (DCT 74, quantization 75, variable length code 76 in MPEG encoder 11, Fig. 9) ;

means for storing in a memory (81) input image data as basic image data in a period of a predetermined number of fields as well as feeding the input image data to the image compression means (column 12, line 57 –68 and column 13);

means (subtractor 72) for finding, with respect to each of the input image data corresponding to the fields between the field corresponding to the input image data which has been stored in the memory (81) and the field corresponding to the input image data which is to be subsequently stored in the memory the difference between the input image data and the basic image data which has been most newly stored in the memory, and feeding data representing the obtained difference to the image compression means (column 13); and

means for recording on a recording medium compressed data for each field which has been compressed by the image compression means, together with identification information indicating whether the compressed data corresponds to the basic image data (Intra- field) or the difference data (inter- field) (column 5, line 60 to column 6, line 5, column 14).

Regarding claim 2, Ono further teaches an image reproducing apparatus (Fig. 11) for reproducing the data which has been recorded on the recording medium by the image recording apparatus,(column 15, lines 5-68, column 16, lines 1-10) comprising:

means for reading the compressed data and the identification information from the recording medium (column 15 lines 7-16);

image expansion means (92,93,94 in MPEG decoding means) for expanding for each field the compressed data which has been read from the recording medium and returning the expanded compressed data to the data which has not been compressed by said image compression means (column 15, lines 48-63);

means for judging whether the data for each field which has been expanded by the image expansion means is the basic image data (intra field or I frame or the difference data (inter -field or B or P frame) on the basis of the identification information (column 14, lines 35-44, column 15 lines 60-68)

means (97) for storing, when the data for each field which has been expanded by the image expansion means is the basic image data, the basic image data in the memory as well as outputting the basic image data as reproduced image data; and means (91) for restoring, when the data for each field which has been expanded by the image expansion means is the difference data, the original image data on the basis of the difference data and the basic image data which has been most newly stored in the memory, and outputting the obtained image data as reproduced image data (column 6 lines 1- 50,column 16, lines 1-20).

Regarding claim 3, Ono teaches an image recording/reproducing apparatus (figs. 1, 9, 14) comprising a recording apparatus and a reproducing apparatus, wherein the recording apparatus comprises image compression means (DCT 74,qunatization circuit 75, variable length encoding circuit of MPEG encoding means), means for storing in a memory (81) input image data as basic image data in a period of a predetermined number of fields as well as feeding the input image data to the image

compression means, means for finding (72, 82) , with respect to each of the input image data corresponding to the fields between the field corresponding to the input image data which has been stored in the memory and the field corresponding to the input image data which is to be subsequently stored in the memory, the difference between the input image data and the basic image data which has been most newly stored in the memory, and feeding data representing the obtained difference to the image compression means, and means for recording on a recording medium compressed data for each field which has been compressed by the image compression means, together with identification information indicating whether the compressed data corresponds to the basic image data or the difference data (column 12, lines 60-68, columns 13 and clumn 14, lines 35-45), and the reproducing apparatus (Fig 11, column 15 and 16) comprises means for reading the compressed data and the identification information from the recording medium (column 15 , lines 7-20) , image expansion means (94,93,92) for expanding for each field the compressed data which has been read from the recording medium and returning the extracted compressed data to the data which has not been compressed by said image compression means (clumn 15, line 5-60) , means for judging whether the data for each field which has been expanded by the image expansion means is the basic image data or the difference data on the basis of the identification information (column 14, lines 35-45, clumn 15, line 60-68), means (97) for storing, when the data for each field which has been expanded by the image expansion means is the basic image data, the basic image data in the memory as well as outputting the basic image data as reproduced image data, and means for restoring,

when the data for each field which has been expanded by the image expansion means is the difference data, the original image data on the basis of the difference data and the basic image data which has been most newly stored in the memory, and outputting the obtained image data as reproduced image data (column 6, lines 1-38, column 16, line 1-25).

Regarding claim 4, Ono teaches image recording apparatus (Figs. 1 ,9 and 14) for recording on a recording medium a time division multiplex image signal obtained by subjecting image signals from a plurality of video cameras (1,2,3 and 4) to time division multiplexing and having information relating to the camera numbers (camera codes) of the video cameras respectively corresponding to fields included therein added thereto, comprising:

storage means (6,7,8,9,) respectively provided in correspondence with the camera numbers (column 5, columns 13-14) ;

means for storing, for each group of fields assigned the same camera number which are included in the time division multiplex image signal, image data as basic image data in memory means (81) corresponding to the camera number assigned to the group of fields in a period of a predetermined number of fields as well as feeding the image data to the image compression means;

means for finding (72), in each group of fields assigned the same camera number which are included in the time division multiplex image signal (column 14, lines 55-68), the difference between each of the image data corresponding to the fields between the field corresponding to the image data which has been stored in the storage

means corresponding to the camera number assigned to the group of fields and the field corresponding to the image data which is to be subsequently stored in the corresponding storage means and the basic image data which has been most newly stored in the corresponding storage means (column 13) , and feeding data representing the obtained difference to the image compression means (74,75,76, column 13); and means for recording on a recording medium each of compressed data for each field which have been compressed by the image compression means, together with identification information indicating whether the compressed data corresponds to the basic image data or the difference data and the camera number (camera code) (column 14).

Regarding claim 5, Ono discloses an image reproducing apparatus (Fig. 11, clumn 15 lines 5-15) for reproducing the data which has been recorded on the recording medium by the image recording apparatus comprising:

means for reading the compressed data, the identification information, and the camera number from the recording medium (column 15);

image expansion means (93,94,95) in MPEG decoding means) for expanding for each field the compressed data which has been read from the recording medium and returning the expanded compressed data to the data which has not been compressed by said image compression means column 15, lines 49-61) ;

means for judging whether the data for each field which has been expanded by the image expansion means is the basic image data or the difference data on the basis of the identification information (clumn 14, lines 35-43, column 15, lines 33-45, 62-65);

means (97) for storing, when the data for each field which has been expanded by the image expansion means is the basic image data, the basic image data (reference image or intra image) in the storage means corresponding to the camera number corresponding to the basic image data as well as outputting the basic image data as reproduced image data (column 15, lines 55 to column 16, line 25); and

means (91) for restoring, when the data for each field which has been expanded by the image expansion means is the difference data, the original image data on the basis of the difference data and the basic image data which has been most newly stored in the storage means corresponding to the camera number corresponding to the difference data, and outputting the obtained image data as reproduced image data (clumn 6, lines 140, column 15, line 60 to column 16, lines 27).

Regarding claim 6, Ono teaches an image recording/reproducing apparatus comprising:

a recording apparatus (Figs. 1,9-11) for recording on a recording medium a time division multiplex image signal obtained by subjecting image signals from a plurality of video cameras to time division multiplexing and having information relating to the camera numbers of the video cameras respectively corresponding to fields included therein added thereto, and a reproducing apparatus for reproducing the data which has been recorded on the recording medium, wherein the recording apparatus comprises storage means (6,7,8,9,81) respectively provided in correspondence with the camera numbers, means for storing, for each group of fields assigned the same camera number (camera code) which are included in the time division multiplex image signal (column

14, lines 20-68 Fig. 10), image data as basic image data in the storage means (81) corresponding to the camera number assigned to the group of fields in a period of a predetermined number of fields as well as feeding the image data to the image compression means, means (72) for finding, in each group of fields assigned the same camera number which are included in the time division multiplex image signal (clumn 5 lines 60-68, column 15, lines 20-6, Fig.10), the difference between each of the image data corresponding to the fields between the field corresponding to the image data which has been stored in the storage means corresponding to the camera number assigned to the group of fields and the field corresponding to the image data which is to be subsequently stored in the corresponding storage means and the basic image data which has been most newly stored in the corresponding storage means, and feeding data representing the obtained difference to the image compression means, and means for recording on a recording medium each of compressed data for each field which have been compressed by the image compression means, together with identification information indicating whether the compressed data corresponds to the basic image data or the difference data and the camera number (column 14) , and the reproducing apparatus (Fig. 11, columns 15-16)) comprises means for reading the compressed data (column 15, line 5-20), the identification information, and the camera number from the recording medium (column 15, lines 30-47), image expansion means (94,93,92) for expanding for each field the compressed data which has been read from the recording medium and returning the expanded compressed data to the data which has not been compressed by said image compression means (column 15, lines 50-57), means for

judging whether the data for each field which has been expanded by the image expansion means is the basic image data or the difference data on the basis of the identification information (Intra fields or inter fields)(column 14 lines 35-43, column 15, lines 33-45), means (16,17,18,19, 97) for storing in the memory (97) (column 15, line 63 to column 16, line 10), when the data for each field which has been expanded by the image expansion means is the basic image data, the basic image data in the storage means corresponding to the camera number corresponding to the basic image data as well as outputting the basic image data as reproduced image data, and means (91) for restoring, when the data for each field which has been expanded by the image expansion means is the difference data, the original image data on the basis of the difference data and the basic image data which has been most newly stored in the storage means corresponding to the camera number corresponding to the difference data, and outputting the obtained image data as reproduced image data (column 6, lines 5-50, column 15, line 60 t clumn 16, line 40 and 16).

Response to Arguments

4. Applicant's arguments filed 19 August 2004 have been fully considered but they are not persuasive.

Applicants argue that "Ono simply fails to disclose or suggest "means for finding, with respect to each of the input image data corresponding to the fields between the field corresponding to the input image data which has been stored in the memory and the field corresponding to the input image data which is to be subsequently stored in the

memory, the difference between the input image data and the basic image data which has been most newly stored in the memory, and feeding data representing the obtained difference to the image compression means," with respect to claims 1 and 3, . In response the examiner disagrees. It is noted that at column 12, line 54 to column 13, line 68 and fig. 9, Ono teaches a MPEG encoder (11) that comprises a memory (81) for storing the input image data of fields , the input image data also is supplied to a compression means comprising a DCT circuit 74, quantization circuit 75 and variable length encoding circuit 76 for compressing the image data. When the image data is basic image data (intra fields) , the basic image data is storing in the memory and is also is supplied to the compression means , the stored basic image data from the memory is forwarded to the subtractor(72) to define the difference between the input images . The subtractor calculates the difference between the stored image data and the being input image data and finds the difference between the fields of the image data from the memory (81) and the fileds of the image data being input and generates a difference data , the difference data is supplied to the compression means (74,75,76) and is compressed by the compression means . Since the storing the basic image data and finding the difference between the stored basic image and being input image data is repeat for every interval of fields or frames, the image data supplied to the subtractor is mostly stored in the memory (81).

Regarding claims 4 and 6, applicants argue that Ono does not teach "means for finding, in **each group of fields assigned the same camera number which are included in the same camera number which are included in the time division**

multiplex image signal, the difference between each of the image data corresponding to the fields between the field corresponding to the image data which has been stored in the storage means corresponding to the camera number assigned to the group of fields and the field corresponding to the image data which is to be subsequently stored in the corresponding storage means and the basic image data which has been most newly stored in the corresponding storage means, and feeding data representing the obtained difference to the image compression means," In response , the examiner disagrees. It is noted that Ono at figure 1, 9 teaches the images signal from a plurality of cameras (1,2,3,4) (column 5, 1-57, Fig. 1 are stored in the memories 6,7,8 and 9 , the images of the camera are read out from the memory under controlling of the controller 13 and then supplied to MPEG encoder , which comprises a memory 81, finding means 72 and compressing means 74,75,76 and multiplexing 87 , to compress the basic data and difference data and form groups of image fields, each group for each camera including a camera number (camera code) (column 14 , lines 30-68, Fig. 10).

Applicants further ague that "For instance, Ono relates to MPEG, where P data is generated from data after being compressed. In contrast, the present invention determines the difference between input image data and the basic image data, before compression." In response, it is noted that Ono teaches the difference data is generated before compressing since the difference data is generated by subtractor (72) and then the difference data is forwarded to the compression means (DCT 74, quantization 75 and variable length encoding 76) for compressing.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ueda et al teaches an encoder comprises a difference finding means, a memory and a compression means . Yamashita , Veltman et al and Naganawa teach apparatus using DCT, quantization and variable length encoding circuit as a compression means .

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY T NGUYEN whose telephone number is (703) 305-4775. The examiner can normally be reached on 8:30AM -6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on (703) 305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H.N

HUY NGUYEN
PRIMARY EXAMINER